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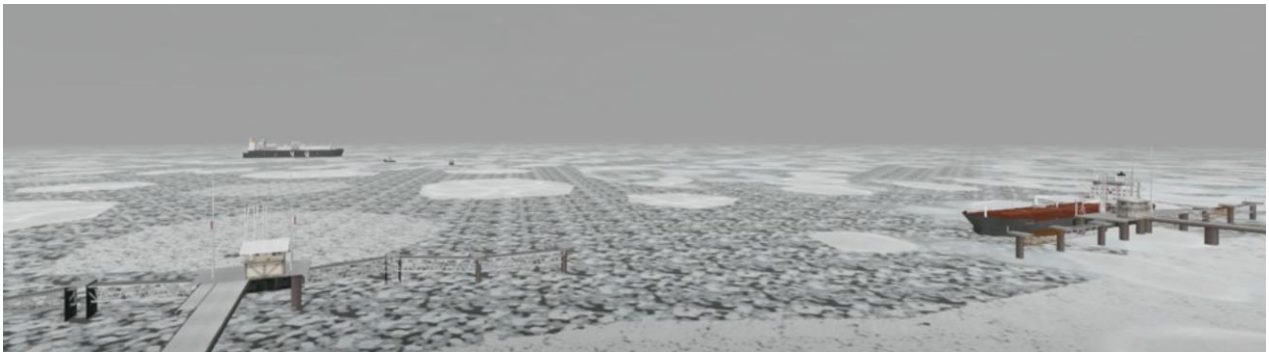
Supporting Documentation & Media

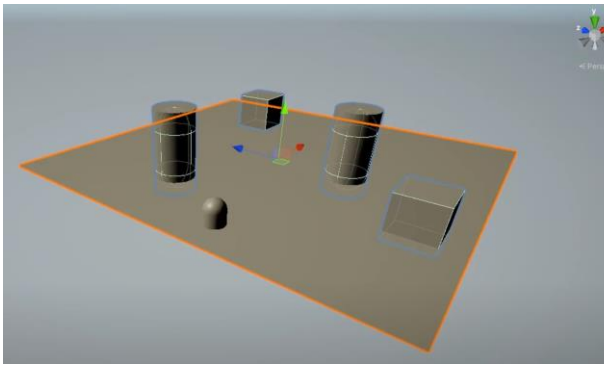
We had three primary goals in this phase of development.

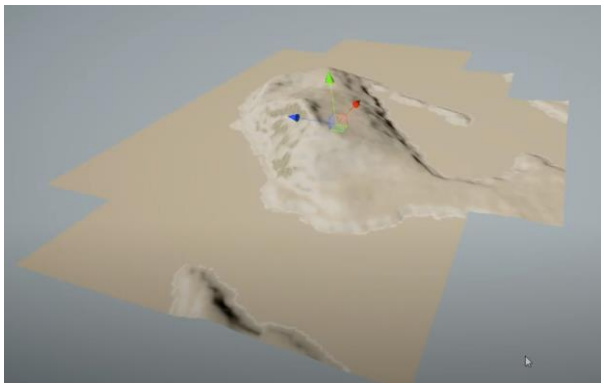
1. Use the AMTC's existing instructional format as the basis for developing a next generation version. This will allow AMTC to make a smoother transition from one modality to another. We will also be able to learn lessons from a existing—and successful—presentation modality.
2. Recreate realistic maritime conditons in the areas of navigation, bathymetric depths, existing coastlines, littoral waters, and existing ports or landings. And ALL of these areas must be Alaska-based or Alaska-centric
3. Recreate realistic maritime conditons in the areas of waves and weather
4. Model and utilize the types of tugs, barges, ships, and other maritime assets commonly encountered in Alaska and other Arctic locations.



We studied AMTC's existing training scenarios

We researched and tested virtual solutions for ship-centric movement through typical Alaska waters. The captures below show some of those experiments. These proved successful and were incorporated into our application. Just as terrain changes as the vessel moves, the visual "sphere" that the Captain experiences also moves. This is the most realistic way to portray what is happening and allows navigational and sailing problems to arise spontaneously while still being based in the physical reality encountered.



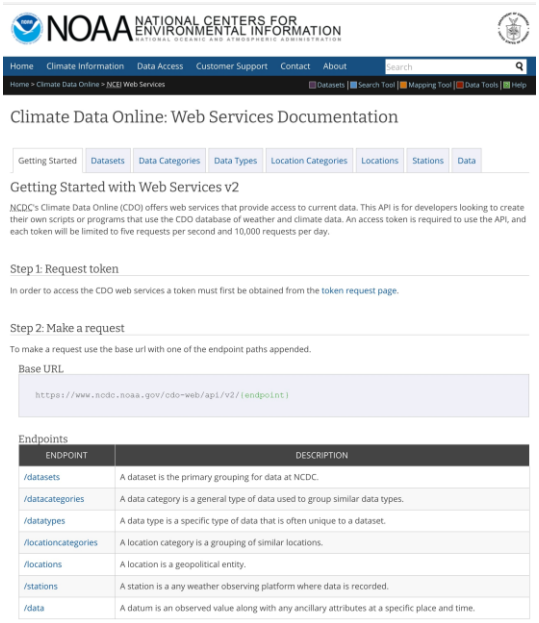


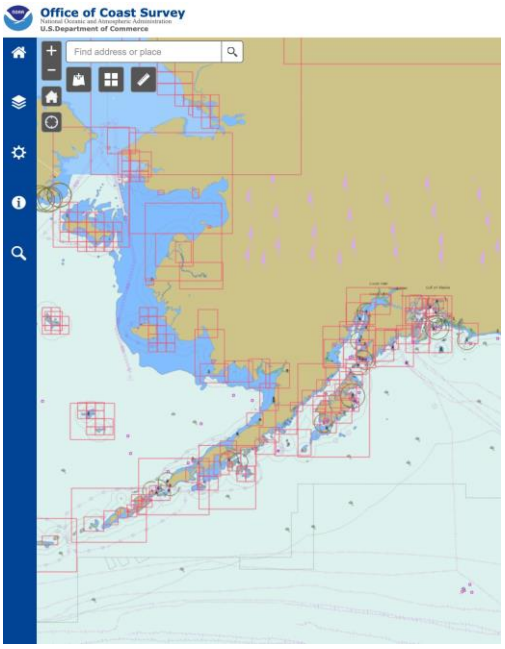
It was our intention from the beginning, to base the environments trainees would encountered on real locations, real conditions and real situations.

To this end we researched and experimented with populating our scenarios with real bathymetic dimensions and real shorelines.

While this will be an on-going process that will continue beyond the boundaries of this particular applications development, we have made every effort to make this application as realistic as possible.

We take the idea of Virtual REALITY seriously.

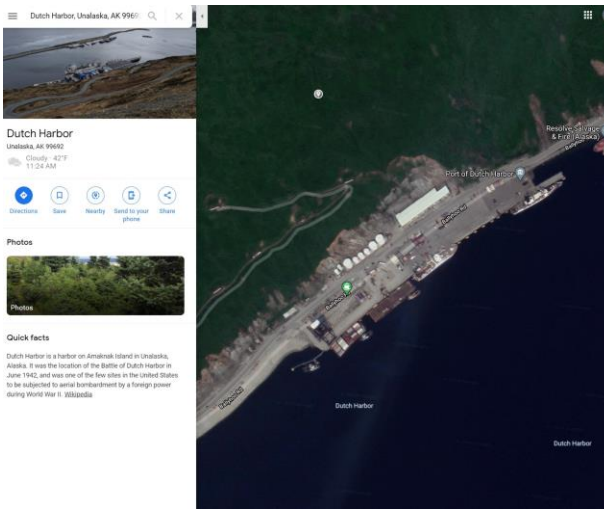


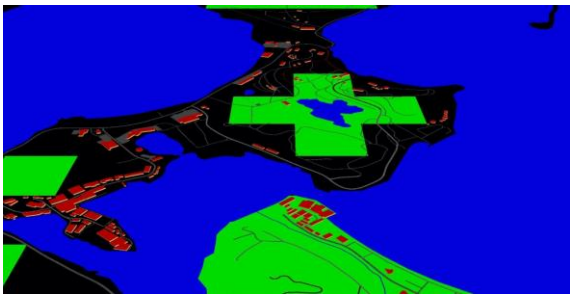


We searched to find an existing location that had as many of the situations and conditions that we might encountered as we progressed. Dutch Harbor proved to be the prime candidate. This was due, in part, to the wealth of information we encountered as well as its littoral diversity.

We dove into a wide range of sources. This result in our being able to model and situate a number of potential training scenarios.

Below are some captures from the our work as we explored Dutch Harbor and its environs.

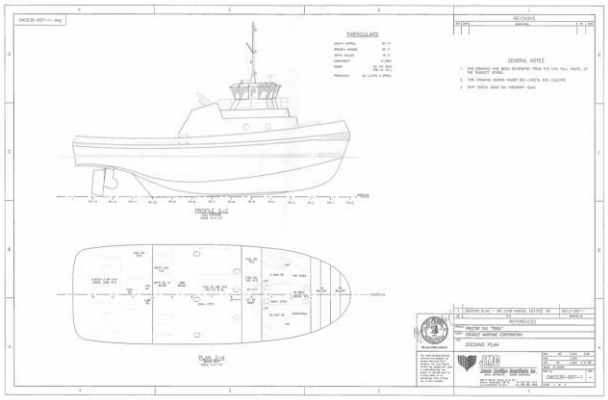


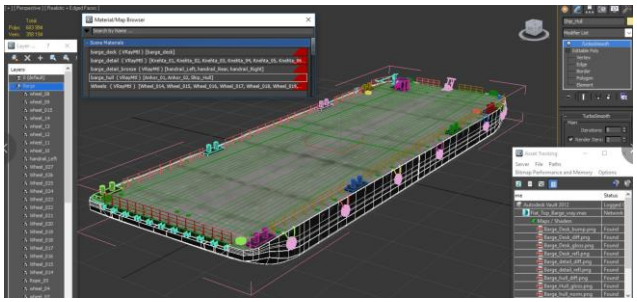


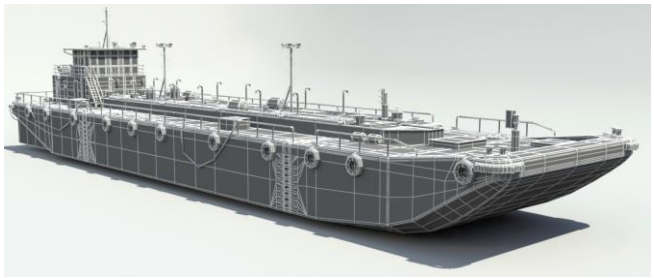
Here are some environmental developments we were able to produce.

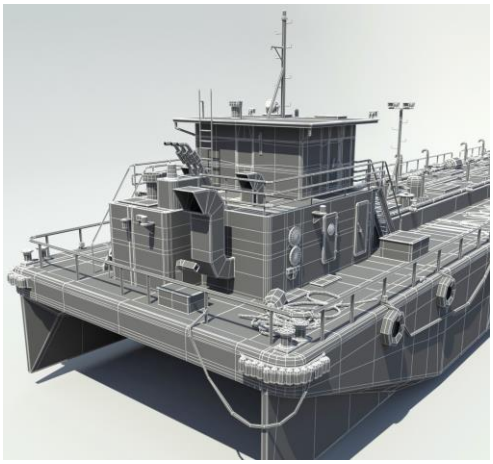
We continue to work on the various maritime assets we will be using to populate or scenarios. The obvious ones are tugs, barges, ships, etc. But we are also focusing on all of the various "tools of the trade" those working on board will encounter.

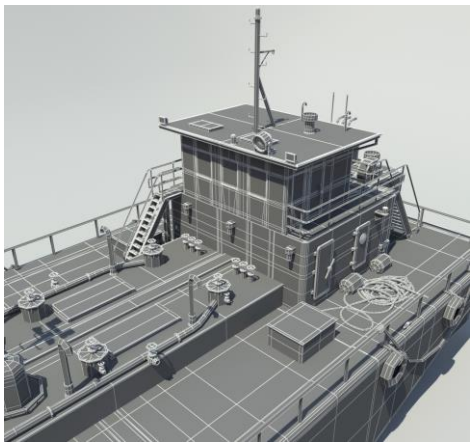
It is our intention to create scenarios that not only train those on the bridge but those working throughout the ship, or those moving between or on board other assets such as barges.



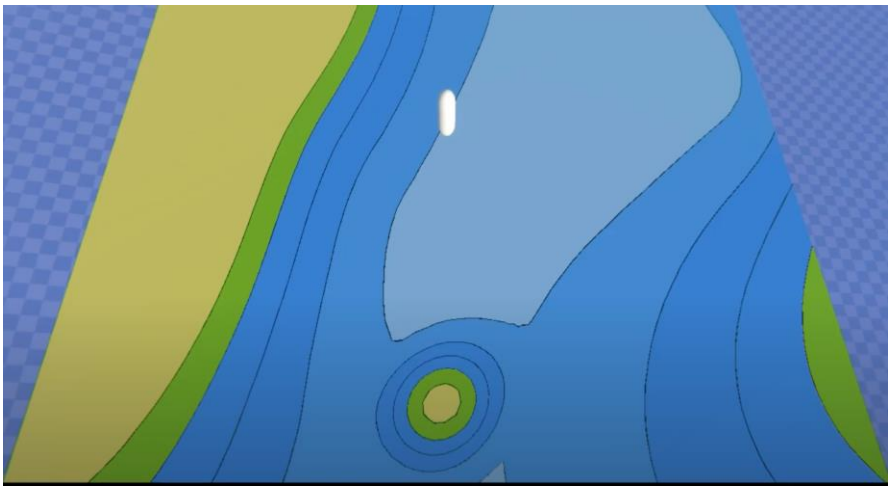




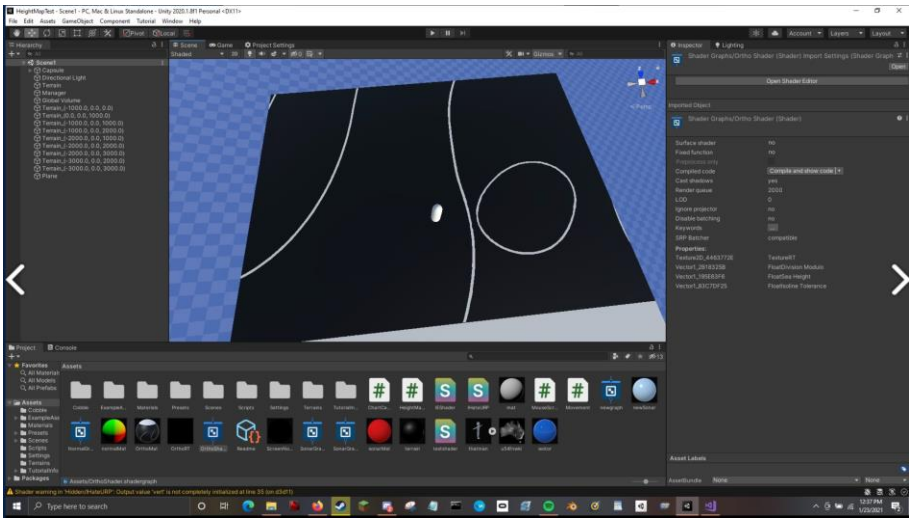




Here are some projects we began in the 4th Quarter of 2020
that are continuing into the 1st Quarter of 2021



One of our interns, a High School student from Fairbanks has researched, developed and is continuing to test and improve, a bathymetric charting display. Similar to those popularly used, this application can generate novel bathymetic scenarios quickly display them to prospective trainees. Talk about workforce development. Here is home grown talent getting the opportunity to do amazing work while still in High School (Screencaps above and below)



Videos

This is 4 ½ minute video that will provide a more interactive look at our work and provide a better sense of its dynamic nature

https://vimeo.com/508605960

This video is under a minute but will provide the viewer with the conceptual basis for how learners will be able to realistically move and interact with their nautical environments. This puts the “simulation” aspect front and center in the learning process.

https://vimeo.com/508574916